

United States Patent [19][11] **3,909,116****Kohashi**[45] **Sept. 30, 1975**[54] **LIGHT MODULATING DEVICE**

3,756,693 9/1973 Ota 350/160 R

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A light modulating device comprising a heterogeneous layer containing an electrokinetically movable liquid material and a solid substance polarizable with respect to the liquid. By establishing an electrical field in the layer the electrokinetically movable liquid is caused to move to vary the transmissivity of the layer to visible light. The electrical field is spatially modulated by electric charges in accordance with an image pattern and the incident light is modulated in exact correspondence with the modulated electrical field. The spatial modulation of the electrical field is effected by the incident ultraviolet light or X-ray radiation or by the impingement of an electron beam in a vacuum chamber.

[30] **Foreign Application Priority Data**

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[52] U.S. Cl. **350/267; 204/299; 350/160 R**[51] Int. Cl.² **G05D 25/00**

[58] Field of Search 350/160 R, 267; 204/299

[56] **References Cited****UNITED STATES PATENTS**

3,668,106 6/1972 Ota 204/199

17 Claims, 13 Drawing Figures